

BEST AVAILABLE COPY

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



PCT

(43) International Publication Date
14 October 2004 (14.10.2004)

(10) International Publication Number
WO 2004/088255 A2

(51) International Patent Classification?: **G01F 1/00**

(21) International Application Number:
PCT/B2004/001012

(22) International Filing Date: **2 April 2004 (02.04.2004)**

(25) Filing Language: **English**

(26) Publication Language: **English**

(30) Priority Data:
0307616.3 **2 April 2003 (02.04.2003)** GB

(71) Applicant (*for all designated States except US*):
MELEXIS NV (BE/BE); Microelectronic Integrated Systems, Rozendaalstraat 12, B-8900 Leper (BE).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **VAN DER WIEL, Apolonus, Jacobus (NL/BE); De Robianostraat 21, B-3080 Tervuren (BE).**

(74) Agent: **HILL, Richard; Wilson Gunn Skerrett, Charles Street, 148/9 Great Charles Street, Birmingham B3 3HT (GB).**

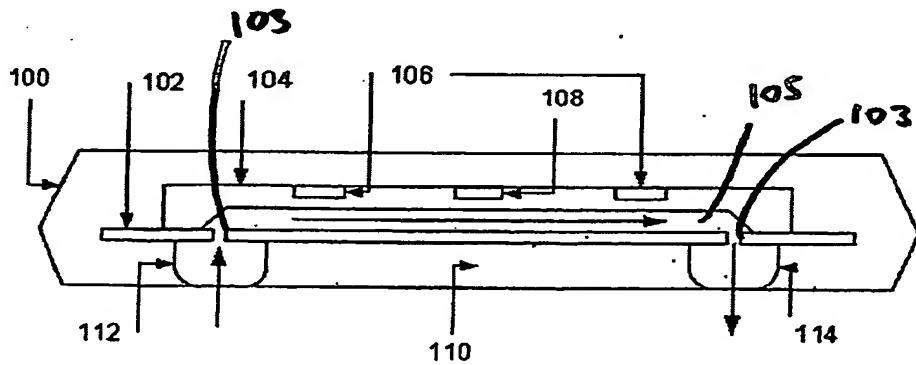
(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO-BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: CALORIMETRIC FLOW METER



WO 2004/088255 A2

(57) Abstract: An encapsulated calorimetric flow meter according to the present invention comprises an integrated circuit (104) mounted on a lead frame (102). The integrated circuit has a channel (105) provided in its lower face, the channel being aligned with two holes (103) provided in the lead frame, the holes coinciding with the ends of the channel (105). There are further slots (111) in the lead frame (102) alongside the integrated circuit to thermally isolate it from the rest of the lead frame (102), which acts as a heat sink to keep the entry and exit fluid at ambient temperature. The flow meter is manufactured by mounting the integrated circuit (104) on to a suitable lead frame (102). The assembly of integrated circuit (104) and lead frame (102) is then inverted and blobs of gel (112, 114) are then deposited onto the lead frame (102) covering the holes (103). The assembly is then inserted into a mould (100) and encapsulated within a suitable mould compound. When the assembly is ejected from the mould cavity the gel can be removed and the holes (103) and the channel (105) exposed to facilitate fluid flow into, out of and along the channel (105).